FOREST STATISTICS REVIEW

1979 - 80

(REVISED)

Alberta
ENERGY AND
NATURAL RESOURCES
FOREST SERVICE

1982 (Revised)

ENR Technical Report Number: T/14-80 (REVISED)
International Standard Book Number: 0-86499-062-6

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FOREWARD

This report presents statistical detail pertaining to the activiities of the Alberta Forest Service during the 1979-80 fiscal year. Summary tables are provided for comparative analysis and observations of trends. Industrial statistics are provided where they are helpful in obtaining a total provincial overview.

ACKNOWLEDGEMENTS

Tabular and graphic materials in this report were complied by the respective branches of the Alberta Forest Service. Although monitoring of industrial reforestation activities is the responsibility of the Timber Management Branch, tabular data has been included in the Reforestation section of the report to provide a total reforestation overview.

A. TIMBER MANAGEMENT

1. Introduction

Timber production from public lands in 1979-80, excluding wood chips, totalled 5 765 076 cubic metres, an increase from the previous year's production, which was 4 672 428 cubic metres. Most of the increase was due to a greater harvest of coniferous lumber and plywood logs — 3 910 597 cubic metres produced in 1979-80 compared to 2 936 284 cubic metres produced in 1978-79. A total of 281 804 bone dry units (BDU) of wood chips were also produced.

2. Timber Management Planning

The total number of active timber dispositions for this year is 31 786. Timber Licences and Commercial Timber Permits (CTP) account for 392 dispositions and Local Timber Permits (LTP) and tags account for 31 294. Table A1 summerizes the number of active timber dispositions over the past 10 years.

Table A1
TEN-YEAR SUMMARY — TIMBER DISPOSITIONS

Year	Miscellaneous and Local Timber Permits and Tags (Number)	Timber Licences and Commercial Timber Permits (Number)
1970-71	1 971	541
1971-72	1 825	548
1972-73	2 881	633
1973-74	4 086	495
1974-75	13 199	522
1975-76	15 476	486
1976-77	15 282	456
1977-78	19 572	475
1978-79	26 842	391
1979-80	31 294	392

2. (a) Forest Management Agreements (FMAs)

Table A2 lists the companies that have entered into FMAs with the Province of Alberta. The table shows the annual allowable cut (AAC) allocated under each agreement.

Table A2
FOREST MANAGEMENT AGREEMENTS
ACTIVE OPERATIONS

FMA Holder	Coniferous AAC (M cubic metres)	Management Plan Status
Procter and Gamble Cellulose Ltd. Grande Prairie, Alberta	1 272	Detailed FMA Plan Approved January 17, 1978.
St. Regis (Alberta) Ltd. Hinton, Alberta	1 052	Second Detailed FMA Plan Approved in 1979.
Simpson Timber Co. (Alberta) Ltd. Blue Ridge, Alberta	373	Preliminary FMA Plan Approved January 17, 1978.
North Canadian Forest Industries Ltd. Grande Prairie, Alberta	199	Detailed FMA Plan due by January 5, 1981.
North Canadian Forest Industries Ltd. (Dell Acres) Hines Creek, Alberta	7	Detailed FMA Plan Approved October 1, 1975.
TOTAL	2 903	

2. (b) Coniferous Timber Quota Planning

There were two coniferous timber quotas, both in the Peace River Forest, sold at public auctions this year. Table A3 lists the total number of coniferous quotas per forest.

Table A3
CURRENT CONIFEROUS TIMBER QUOTA STATUS
(On March 31, 1980)

Forest	Quotas (Number)	Authorized Annual Allowable Cut (M cubic metres)
Athabasca	8	163
Bow/Crow	15	239
Edson	12	326
Footner Lake	10	421
Grande Prairie	1	62
Lac La Biche	6	83
Peace River	10	244
Rocky/Clearwater	29	163
Slave Lake	30	547
Whitecourt	14	276
TOTAL	135	2 524

There are two active Deciduous Timber Allocations (DTAs) totalling 696 hectares of annual allowable cut. Both DTAs are located in the Rocky/Clearwater Forest.

3. Woods Operations

Timber harvesting operations on public land must be conducted in accordance with an approved annual operating plan (AOP). Field staff approved 122 quota timber licence AOPs and 46 commercial timber permit AOPs. Staff also conducted 861 woods inspections on the timber licence areas and 263 woods inspections on the commercial timber permit areas, related to the approved AOPs.

Additional operations and inspections were carried out on four Forest Management Agreement areas. These include: St. Regis (Alberta) Ltd., North Canadian Forest Industries Ltd., Procter and Gamble Cellulose Ltd., and Simpson Timber Co. (Alberta) Ltd. These companies accounted for an additional seven AOPs and 553 woods inspections. These additions bring the total number of approved annual operating plans to 175 and the total number of woods inspections to 1 677.

4. Scaling

The volume of 610 weight-scale sample loads of logs check-scaled by the Forest Service amounted to 25 212 cubic metres.

During the year, 147 scaling permits and 37 scaling licences were issued.

5. Timber Audits

A total of 48 audits of volume were completed during the year.

Table A4
TIMBER DISPOSITIONS HANDLED

Disposition	Class	Granted	Sold	Total
Coniferous Timber Quota		—	2	2
Licences	Coniferous Quota	28	—	28
Commercial Timber Permits	Coniferous — Green	—	21	21
	Coniferous — Dead and Damaged	—	11	11
	Deciduous — Green	—	3	3
Local Timber Permits		2 304	—	2 304
Tree Tags		28 990	—	28 990
Custom Sawmill, Planer Mill or Timber Treating or Processing Plant Permits		—	60	60

Forty-six advertisements publicized the sale of two Coniferous Timber Quotas, 31 Commercial Timber Permits and 13 Local Timber Permits.

Table A5
VALUE OF TIMBER PRODUCTION
ON PUBLIC LANDS

Product	Volume	Unit	Unit Price ($)	Value ($)
Lumber — Coniferous	3 910 597	Cubic metres	49.34	192 948 856
Lumber — Deciduous	17 949	Cubic metres	19.80	355 390
Round Timber	171 343	Cubic metres	60.03	10 285 720
Pulpwood	1 586 952	Cubic metres	17.03	27 025 792
Wood Chips	281 804	Bone dry units	21.00*	5 917 884
Fuelwood	64 425	Cubic metres	18.70	1 204 746
Slabs	65	Cubic metres	12.46	810
Railway Ties	13 663	Cubic metres	64.41	880 034
Lath	82	Cubic metres	226.00	18 532
Christmas Trees	34 291	Number	3.00	102 873
Trees for Transplanting	215 158	Number	2.00	430 316
TOTAL ($)				239 170 953

*Unit price at producing mill.

Table

TEN-YEAR SUMMARY

1970

Products	Year			
	1979-80	1978-79	1977-78	1976-77
Coniferous Lumber and Plywood Logs (M cubic metres)	3 911	2 936	2 884	2 579
Deciduous Lumber (M cubic metres)	18	25	13	30
Round Timber (cubic metres)	171 343	81 618	226 560	169 920
Pulpwood (M cubic metres)	1 587	1 547	1 651	1 581
Wood Chips (M bone dry units)	282	311	190	112
Fuelwood and Slabs (cubic metres)	64 490	60 417	48 140	50 547
Railway Ties (cubic metres)	13 663	21 702	27 528	35 224
Lath (cubic metres)	82	301	1 319	—
Christmas Trees (Number)	34 291	30 727	23 902	17 702
Trees for Transplanting (Number)	215 518	61 377	28 507	37 644
TOTAL* (M cubic metres)	5 765	4 672	4 852	4 446

* Excludes wood chips, christmas trees, and trees for transplanting.

A6

– TIMBER PRODUCTS

– 1980

Year					
1975-76	1974-75	1973-74	1972-73	1971-72	1970-71
2 142	1 704	2 932	2 700	2 288	2 193
26	51	47	86	51	4
84 960	141 600	84 960	84 960	56 640	84 960
1 731	2 212	1 906	1 006	763	676
57	85	117	21	—	—
12 035	12 035	9 628	19 256	12 035	9 628
48 396	33 744	14 652	28 120	31 820	44 252
606	887	1 294	1 434	1 389	1 564
18 367	16 737	7 820	17 580	16 908	15 283
27 050	16 201	2 441	5 141	1 322	211
4 045	4 156	4 996	3 925	3 204	3 014

Table A7

SUMMARY OF TIMBER OPERATIONS ON PUBLIC LANDS

PRODUCT	CLASS	UNIT	TIMBER DISPOSITIONS		TOTAL
			F.M. AGREEMENTS TIMBER LICENCES COMMERCIAL PERMITS	LOCAL TIMBER PERMITS AND TAGS	
Lumber and Plywood Logs	Coniferous	Cubic metres	3 554 872	355 725	3 910 597
	Deciduous	Cubic metres	4 899	13 050	17 949
Round Timber	Coniferous	Cubic metres	69 869	100 863	170 732
	Deciduous	Cubic metres	—	611	611
Pulpwood	Coniferous	Cubic metres	1 540 677	39 501	1 580 178
	Deciduous	Cubic metres	—	6 774	6 774
Fuelwood	Coniferous	Cubic metres	1 822	34 796	36 618
	Deciduous	Cubic metres	254	27 553	27 807
Slabs	Coniferous	Cubic metres	65	—	65
Railway Ties	Coniferous	Cubic metres	13 663	—	13 663
Lath	Coniferous	Cubic metres	—	82	82
*TOTAL VOLUME		Cubic metres	5 186 121	578 955	5 765 076*
Christmas Trees		Number	—	34 291	34 291
Trees for Transplanting		Number	—	215 158	215 158
Wood Chips		Bone dry units	281 804	—	281 804

* TOTAL VOLUME does not include 65 726 cubic metres of wood products from Metis Colonies.

B. REFORESTATION AND RECLAMATION

1. Introduction

This branch is responsible for all Alberta Forest Service reforestation and reclamation projects, the provincial genetics and tree improvement program and the Pine Ridge Forest Nursery.

2. Reforestation

Regeneration surveys were completed on 13 469 hectares of cut-over land of which 10 315 hectares or 77 percent were found satisfactorily stocked. Silviculture treatments included: scarification of 6 324 hectares, seeding of 3 325 hectares, and the planting of 4 898 809 containerized seedlings on 3 195 hectares.

The Maintaining Our Forest Program funded under the Alberta Heritage Savings Trust Fund commenced in 1979-80. Programs were established in the Athabasca, Footner Lake, Lac La Biche, Peace River and Slave Lake Forests. The Athabasca program was terminated during December, 1979, due to lack of suitable areas. The other four forests cleared and piled a total of 3 610 hectares which will be scarified and planted by the fall of 1981. Three Finnish-made Marttiini plows to be used for site preparation were purchased.

3. Reclamation

The Reclamation Section coordinated the rehabilitation of 269 abandoned sites including oil, gas, and coal exploration trails, access trails, gravel pits and industrial and waste disposal sites within the Green Area. The native grass adaptability trials in the Eastern Slopes continued with cooperation from the Reclamation Research and Technical Advisory Committee and the University of Alberta. New native species trials were established during the year at Cadomin and Adanac. Native and exotic woody plant testing was expanded and earlier trials at Tent Mountain were assessed. Native tree and shrub candidate species were selected, their seed germination requirements were reviewed, and some seed collection carried out for future testing. Agronomic grass and legume species testing continued during the year. Field tests with various erosion-control materials were conducted and first season results reported during the year.

4. Genetics and Tree Improvement

Assembly of breeding stock for three lodgepole pine selection and breeding programs was completed during the year under the Genetics and Tree Improvement Program. This program is jointly supported by the Alberta Forest Service and the Forest Management Agreement Holders.

Selection of superior white spruce trees continued in the Grande Prairie and Peace River Forests. A total of 72 candidate trees were identified and cones and scions were collected from them for progeny testing and propagation by grafting.

A total of 435 seed lots were extracted and processed to provide seed for research studies. Planting stock production consisted of 51 000 seedlings and 940 grafts. Work on controlled pollination of larches continued with 60 additional crosses made to complete the materials required for field testing. Five field trials were established with the industrial cooperators to compare and evaluate field performance of Siberian Larch, tamarack, black spruce, and lodgepole pine on diverse site types. Three nursery trials were established to evaluate early performance of white spruce seed lots collected from various locations in Alberta. Greenhouse seeding of western larch, ponderosa pine, western white pine, and Scots pine seed lots of selected geographic origins was completed to produce experimental stock for planting for the 1981 field trials.

5. Pine Ridge Forest Nursery

Construction of the Pine Ridge Forest Nursery located east of Smoky Lake is nearing completion. Even though this facility is not fully built, this is the second year for containerized seedling production. A total of 13 200 000 containerized seedlings were sown in two crops although the facility was designed to normally produce only one crop. A second seeding of approximately 2.2 million was carried out in June in an attempt to accommodate the large demand for planting stock and to investigate the feasibility of growing two crops per year. Shipments of planting stock to reforestation sites totalled 10 302 612, of which 4 552 200 were from the crop seeded in 1978-79 and 5 750 412 from the current 1979-80 crop year. The remaining 7 449 588 are for planting in the spring of 1980. Forest industry requirements for planting stock amounted to a little over one-half of the total production.

In addition to the containerized seedling production, requests for 6 300 000 bareroot seedlings were received. Appropriate seed beds were prepared and the requested number was seeded in the fall of 1979. The first bareroot seedlings at the new facility reached two years of age. A trial lifting of 115 000 two-year-old pine was completed in the fall and placed in cold storage to over-winter for shipping in the spring of 1980. The purpose of the trial was to test the lifting equipment and over-wintering of seedlings and to train staff prior to commencement of large-scale operations. The bareroot facility will reach its designed production capability of 10 million trees per year beginning in 1980-81.

The Research and Investigations Section of the nursery assisted with the establishment and seedling growth regimes and monitored growth and quality of both the container and bareroot stock.

The seed processing and storage facility commenced operations with the transfer of the seed inventory from the Provincial Tree Nursery to Pine Ridge and with the installation of the seed-cleaning equipment and testing facility.

Table B1
REGENERATION SURVEYS

Forest	ALBERTA FOREST SERVICE			INDUSTRY			GRAND TOTAL (Hectares)
	Stocked (Hectares)	Non-Stocked (Hectares)	Total Surveyed (Hectares)	Stocked (Hectares)	Non-Stocked (Hectares)	Total Surveyed (Hectares)	
Athabasca	100	295	395	560	275	835	1 230
Bow/Crow	1 114	673	1 787	512	295	807	2 594
Edson	612	203	815	3 114	3 546	6 660	7 475
Footner Lake	762	140	902	960	471	1 431	2 333
Grande Prairie	700	14	714	3 923	508	4 431	5 145
Lac La Biche	1 218	208	1 426	190	251	441	1 867
Peace River	448	635	1 083	558	597	1 155	2 238
Rocky/Clearwater	1005	206	1 211	458	68	526	1 737
Slave Lake	2 664	513	3 177	1 488	269	1 757	4 934
Whitecourt	1 692	267	1 959	1 858	657	2 515	4 474
TOTAL	10 315	3 154	13 469	13 621	6 937	20 558	34 027

Table B2

TEN-YEAR SUMMARY — REGENERATION SURVEYS

1970-1980

Year	ALBERTA FOREST SERVICE			INDUSTRY			GRAND TOTAL (Hectares)
	Stocked (Hectares)	Non-stocked (Hectares)	Total Surveyed (Hectares)	Stocked (Hectares)	Non-stocked (Hectares)	Total Surveyed (Hectares)	
1970-71	6 848	9 602	16 450	4 916	2 405	7 321	23 771
1971-72	11 502	5 509	17 011	3 034	959	3 993	21 004
1972-73	6 187	7 846	14 033	5 853	5 556	11 409	25 442
1973-74	10 422	15 281	25 703	9 669	7 391	17 060	42 763
1974-75	6 541	3 404	9 945	10 113	7 495	17 608	27 553
1975-76	12 750	6 091	18 841	10 788	5 401	16 189	35 030
1976-77	11 055	6 226	17 281	8 715	8 297	17 012	34 293
1977-78	10 114	8 841	18 955	7 295	9 702	16 997	35 952
1978-79	10 271	2 696	12 697	8 958	6 153	15 111	28 078
1979-80	10 315	3 154	13 469	13 621	6 937	20 558	34 027

Table B3

REFORESTATION WORK CONDUCTED BY THE ALBERTA FOREST SERVICE

Forest	Scarification (Hectares)	Seeding (Hectares)	Cones Collected			Thinning (Hectares)	Seedlings Planted		Prescribed Burn (Hectares)
			Pine (Hectolitres)	Spruce (Hectolitres)	Other (Hectolitres)		Conventional (Number)	Container (Number)	
Athabasca	523	—	—	191	—	—	—	202 830	—
Bow/Crow	218	878	1 600	—	—	—	—	364 150	—
Edson	553	—	737	199	0.36	15.6	—	179 091	—
Footner Lake	278	469	—	2 612	—	—	—	785 573	—
Grande Prairie	775	212	368	1 070	—	—	—	550 500	—
Lac La Biche	539	—	—	978	—	—	—	559 800	—
Peace River	288	—	—	591	—	—	—	1 008 745	—
Rocky Clearwater	1 349	925	728	541	—	0.3	—	178 120	—
Slave Lake	1 116	809	—	4 149	—	—	—	640 000	—
Whitecourt	685	32	—	750	—	—	—	430 000	—
TOTAL	6 324	3 325	3 433	11 081	0.36	15.9	—	4 898 809	—

Note: One hectolitre of spruce cones yields approximately 1.168 kilograms of seed and one hectolitre of pine cones yields about 0.312 kilograms of seed.

Table B4

REFORESTATION BY FOREST INDUSTRIES IN ALBERTA

Forest	Scarification (Hectares)	Seeding (Hectares)	Seed Extracted		Controlled Burning (Hectares)	Thinning (Hectares)	Seedlings Planted	
			Pine (Kilograms)	Spruce (Kilograms)			Conventional (Number)	Container (Number)
Athabasca	101	—	—	—	—	—	—	202 830
Bow/Crow	311	51	—	—	—	—	—	108 675
Edson	3 691	—	4	180	—	256	—	1 501 650
Footner Lake	65	378	—	2 018	—	—	—	213 350
Grande Prairie	2 135	972	276	732	—	—	—	2 181 600
Lac La Biche	—	—	—	—	—	—	—	—
Peace River	960	528	134	838	—	—	—	947 782
Rocky/Clearwater	—	—	17	1	—	—	—	150 000
Slave Lake	182	66	78	2 590	—	—	—	244 900
Whitecourt	309	145	567	1 164	14	—	—	827 004
TOTAL	7 754	2 140	1 076	7 523	14	256	—	6 377 791

Table B5

TEN-YEAR SUMMARY — REFORESTATION BY THE ALBERTA FOREST SERVICE

1970-1980

Year	Scarification (Hectares)	Seedling (Hectares)	Thinning (Hectares)	Conventional (Number)	Container (Number)
1970-71	6 685	3 788	2 041	1 248 693	384 500
1971-72	7 243	5 385	1 374	1 655 486	513 012
1972-73	6 979	4 701	100	333 412	1 127 373
1973-74	6 594	1 332	108	*1 228 392	1 334 588
1974-75	6 296	2 047	72	**1 140 705	1 224 396
1975-76	6 697	1 885	104	*** 943 702	3 514 664
1976-77	4 757	2 898	546	**** 827 520	2 294 659
1977-78	6 684	4 782	111	224 478	2 378 730
1978-79	10 152	4 654	11	94 118	2 053 885
1979-80	6 324	3 325	16	—	4 898 809

* Includes 50 800 wildlings planted

** Includes 26 000 wildlings planted

*** Includes 82 032 wildlings planted

**** Includes 137 776 wildlings planted

Table B6

TEN-YEAR SUMMARY — REFORESTATION BY FOREST INDUSTRIES

1970-1980

Year	Scarification (Hectares)	Seeding (Hectares)	Thinning (Hectares)	Seedlings Planted	
				Conventional	Container
1970-71	6 218	—	2 0	3 000	1 307 000
1971-72	5 452	217	—	—	643 657
1972-73	5 501	1 745	—	40 000	929 244
1973-74	6 793	1 939	—	*64 070	957 594
1974-75	6 334	2 313	—	**140 462	3 124 239
1975-76	10 840	2 862	40	1 329 364	1 732 820
1976-77	9 849	3 427	37	103 675	3 284 978
1977-78	10 292	5 328	20	—	4 253 860
1978-79	5 952	1 690	148	44 500	6 164 579
1979-80	7 754	2 140	256	—	6 377 791

* Includes 8500 wildlings planted

** Includes 3000 wildlings planted

C. LAND USE

1. Introduction

The following information pertains to forest land use activities of the Alberta Forest Service.

2. Grazing

There was a small decrease in the total animal unit months (A.U.M.) used in the Forest Reserves from 74 202 in 1978-79 to 72 950, a difference of 1 252 AUMs. Grazing revenue from 268 permits on 88 allotments was $115 834. In addition, 228 515 hectares and 126 211 AUMSs were managed on other forested lands within the Green Zone under leases, permits and licences. Head Tax permits accounted for an additional 31 permits which covered a total of 48 056 hectares and 18 126 AUMs.

3. Petroleum and Natural Gas

The increased use of forest lands by the petroleum and natural gas industry was evidenced by a 30 percent increase in applications processed for land surface rights. Table C1 shows the applications processed by forest, for the last five years.

Table C1

APPLICATIONS PROCESSED FOR LAND SURFACE RIGHTS FOR THE PETROLEUM AND NATURAL GAS INDUSTRY

Forest	1979-80	1978-79	1977-78	1976-77	1975-76
Athabasca	98	60	47	105	60
Bow/Crow	111	128	81	84	99
Edson	413	128	167	223	149
Footner Lake	345	287	259	413	236
Grande Prairie	628	338	196	89	40
Lac La Biche	458	428	363	380	272
Peace River	239	320	351	442	413
Rocky/Clearwater	374	283	266	190	215
Slave Lake	672	491	413	386	309
Whitecourt	721	655	485	376	289
TOTAL	4 059	3 118	2 628	2 688	2 082

In addition, 1 270 amendments and a total of 439 Sand and Gravel Dispositions and Miscellaneous Permits and Leases were approved. In addition, numerous holdings, land use restrictions and administrative reservations were processed.

Timber Damage assessments on Land Dispositions — timber damage assessments were computed on 2 074 dispositions in 1979-80.

4. Watershed Management

As part of a continuing inventory program of precipitation and streamflow, a data network has been established. A total of 135 precipitation storage gauges and 18 water level recorders were collecting data in the Green Area in 1979-80.

Table C2
PRECIPITATION AND STREAMFLOW NETWORK

Forest	Number of Precipitation Gauges	Frequency of Reading	Number of Water Level Recorders
Athabasca	1	semi-annually	
Bow/Crow	46	10 monthly	3
		36 semi-annually	
Edson	18	11 semi-annually	
		7 monthly in Tri-Creeks	
Footner Lake	4	semi-annually	
Grande Prairie	19	semi-annually	
Lac La Biche	1	semi-annually	5
Peace River	2	semi-annually	
Rocky/Clearwater	22	3 monthly	3
		19 semi-annually	
Slave Lake	10	semi-annually	3
Whitecourt	12	semi-annually	4

5. Forest Recreation

A total of $223 488.00 was spent on new construction as follows:

Expansion and upgrading:	$148 036.00
New Projects:	$ 85 452.00

Embarras River Group Camp
Grande Cache Lake Day Use
Tall Cree Crossing
Pinto Lake

River inventories were conducted on the Athabasca, Little Smoky, North Saskatchewan and Wabasca Rivers. The Barber-Larocque and Richardson Lake groups were also inventoried. The cost of the river and lake inventories was approximately $15 000.00.

The Alberta Forest Service continued to provide camping facilities for individuals seeking a more primitive recreational experience than that provided by national and provincial parks campgrounds.

Accommodations at Alberta Forest Service campgrounds include tent and trailer stalls each containing a picnic table and fireplace. Drinking water is supplied by hand pumps and toilets are the pit privy type. Firewood is supplied. Individual unit services or hook-ups are not provided. Several recreation areas are located on lakes which allow motorized boating. Where this is the case, the recreation area also provides a boat launch.

Table C3

LIST OF FOREST RECREATION AREAS AND CAMPING UNITS AVAILABLE

Forest	Recreation Area	Camping Units	Day Use Units	Location
Athabasca				
	Cascade Rapids	8	—	68 km E of Ft. McMurray
	Dore Lake	10	6	10 km NW of Ft. Chipewyan
	Engstrom	4	—	48 km E of Ft. McMurray
	Maqua Lake	16	13	39 km S of Ft. McMurray
	Miseieutin	4	—	35 km E of Ft. McMurray
	Whitemud Falls	4	—	80 km E of Ft. McMurray
Bow/Crow				
	Allison	17	10	9 km NW of Crowsnest
	Beaver Mines Lake	54	20	30 km S of Crowsnest
	Bluerock	64	4	45 km W of Turner Valley
	Burnt Timber	18	10	65 km SW of Sundre
	Castle Falls	28	25	15 km S of Crowsnest
	Chinook	31	10	12 km NW of Crownest
	Deer Creek	—	10	45 km W of Sundre
	Dutch Creek	22	10	30 km NW of Crowsnest
	Gorge Creek	—	16	30 km W of Turner Valley
	Indian Graves	28	4	40 km S of Longview
	James Wilson	15	15	40 km W of Sundre
	Livingstone Falls	16	10	60 km N of Crowsnest
	Lynx Creek	26	10	20 km S of Crowsnest
	North Fork	24	10	15 km W of Millarville
	North Fork Horse Gr.	15	—	
	North Ghose	93	8	70 km NW of Cochrane
	Oldman River	18	10	40 km N of Crowsnest
	Racehorse	19	13	25 km N of Crowsnest
	Red Deer	66	12	55 km W of Sundre
	Sandy McNabb	31	5	25 km W of Turner Valley
	Sheep Falls	—	8	40 km W of Turner Valley
	Sibbald Flats	96	20	15 km S of Morley
	Waiporous Creek	36	10	65 km NW of Cochrane
	Wildhorse	—	9	59 km W of Sundre
Edson				
	Big Berland	26	3	70 km NW of Hinton
	Cardinal River	18	—	52 km S & 39 E of Hinton
	Cardinal River Vwpt.	—	2	3 km S of Mountain Park
	Emerson Lakes	7	8	56 km NE of Hinton
	Fairfax Lake	—	8	105 km S of Edson
	Fickle Lake	35	10	39 km SW of Edson
	Blue Ridge	22	10	1 km N of Grande Cache
	Grande Cache Lake	—	8	
	Kinky Lake	10	—	27 km SW of Hinton

Table C3 continued

Forest	Recreation Area	Camping Units	Day Use Units	Location
	Little Sundance	6	8	
	McLeod River	18	6	26 km SE of Hinton
	Pembina Forks	20	5	109 km S of Edson
	Pierre Grey Lakes	64	10	93 km NW of Hinton
	Rock Lake	23	10	42 km NW of Hinton
	Watson Creek	39	—	112 km SW of Edson
	Whitehorse Creek	12	—	122 km SW of Edson
	Wildhorse Lake	14	10	25 km SW of Hinton
Footner Lake				
	Buffalo Tower	—	3	29 km S of La Crete
	Buffalo River	6	2	24 km SW of Rainbow Lake
	Hutch Lake	12	11	36 km NW of High Level
	Rainbow Lake	13	3	24 km S of Rainbow Lake
	Tall Cree Crossing	10	4	
	Thurston Lake	4	—	167 km NW of High Level
Grande Prairie				
	Bison Flats	17	10	43 km E & 114 km S of Grande Prairie
	Cutbank River	—	1	80 km S of Grande Prairie
	Economy Lake	4	3	32 km S of Grande Prairie
	Musreau Lake	83	—	80 km S of Grande Prairie
	Simonette River	24	20	11 km W & 8 km S of Debolt
	Two Lakes	38	—	89 km S & 25 km W of Grande Prairie
	Westview	—	3	109 km S of Grande Prairie
Lac La Biche				
	La Biche River	—	2	93 km NW of Lac La Biche
	Seibert Lake	36	6	45 km N & 32 km W of Bonnyville
	Touchwood Lake	32	7	35 km E & 11 km N of Lac La Biche
	Wolf Lake	57	3	40 km N & 16 km W of Bonnyville
Peace River				
	Notikewan	10	—	58 km N of Hines Creek
	Running Lake	11	20	52 km N & 18 km W of Hines Creek
	Stoney Motto	—	12	
	Sulphur Lake	12	8	58 km N & 20 km W of Hines Creek

Table C3 continued

Forest	Recreation Area	Camping Units	Day Use Units	Location
Rocky/ Clearwater	Blackstone	10	—	25 km N of Nordegg
	Brazeau Reservoir	47	—	25 km SW of Lodgepole
	Brazeau River	12	6	63 km N of Nordegg
	Brown Creek	13	5	40 km N of Nordegg
	Chambers Creek	15	6	40 km W of Rocky Mountain House
	Crescent Falls	—	6	19 km W of Nordegg
	Elk Creek	14	1	45 km S of Nordegg
	Elk River	13	2	72 km N of Nordegg
	Fish Lake	100	10	3 km W of Nordegg
	Goldeye Lake	45	—	7 km W of Nordegg
	Harlech	10	7	10 km E of Nordegg
	Haven Creek	8	6	10 km W of Nordegg
	Jackfish Lake	4	—	60 km W of Rocky Mountain House
	Kootenay Plains	20	6	64 km W of Nordegg
	Medicine Lake	34	10	37 km NW of Rimbey
	Mitchell Lake	—	4	29 km S of Rocky Mountain House
	North Ram River	20	5	29 km S of Nordegg
	Peppers Lake	20	6	19 km S & 45 km W of Rocky Mountain House
	Phyllis Lake	—	4	45 km S of Rocky Mountain House
	Prairie Creek	35	6	32 km SW of Rocky Mountain House
	Ram Falls	54	25	40 km S of Nordegg
	Seven Mile	38	6	66 km NW of Ricinus
	Shunda Beaverdam	12	—	3 km E of Nordegg
	Shunda Viewpoint	—	5	72 km W of Rocky Mountain House
	Strachan	23	14	19 km SW of Rocky Mountain House
	Swan Lake	16	—	32 km NW of Ricinus
	Thompson Creek	37	5	87 km SW of Nordegg
	Upper Shunda Creek	20	10	3 km NW of Nordegg
Slave Lake	Fawcett Lake	10	2	13 km N & 58 km E of Slave Lake
	North Wabasca	30	—	142 km N of Slave Lake
	Peerless Lake	19	6	164 km N & 77 km W of Slave Lake

Table C3 continued

Forest	Recreation Area	Camping Units	Day Use Units	Location
Whitecourt	Goose Lake	25	5	26 km N & 24 km E of Whitecourt
	Iosegun Lake	30	9	11 km N of Fox Creek
	Smoke Lake	42	12	13 km SW of Fox Creek
	Swan Hills	10	—	8 km W of Swan Hills
	Wolf Lake	25	5	43 km S & 15 km E of Edson

Table C4
GROUP CAMPGROUNDS

Forest	Name	Shelter	Water Well	Horse Corrals
Bow/Crow				
	Cataract	X	X	
	Highwood	X	X	
	North Fork	X	X	X
	Ghost Airstrip	X	X	
	Oldman River		X	X
	Pine Grove	X	X	
	Sandy McNabb	X	X	X
	Syncline	X	X	
	Waiporous	X	X	
Rocky/Clearwater				
	Cavalcade		X	
	Snow Creek	X		
	Upper Shunda	X	X	
	Prairie Creek	X	X	
	Chambers Creek	X	X	
Edson				
	Embarras River	X	X	
	Watson Creek		X	
	Hay River	X		
Peace River				
	Sulphur Lake	X		

Table C5

SUMMARY OF DEVELOPED RECREATION AREAS

Forest	Campgrounds (Number)	FACILITIES				
		Camping Units	Day Use Units	Trails (km)	Group Camps	Staging Areas
Athabasca	6	46	19	—	—	—
Bow/Crow	24	717	259	520	9	20
Edson	17	314	98	—	3	—
Footner Lake	6	45	23	—	—	—
Grande Prairie	7	166	37	3	—	—
Lac La Biche	4	125	18	—	—	—
Peace River	4	33	40	—	1	—
Rocky/Clearwater	28	620	155	32	5	—
Slave Lake	3	59	8	—	—	—
Whitecourt	5	132	31	—	—	—
TOTAL	*104	2 257	688	555	18	20

NOTE: In addition to the above developed recreation areas, there are 160 "H" reservations (undeveloped recreation areas, viewpoints, etc.) held by the A.F.S.

*Due to the transfer of several A.F.S. recreation areas to Provincial Parks (i.e. Kananaskis Country, Hillard's Bay, Carson Lake), the number of developed A.F.S. campgrounds has decreased over the last year.

6. Geophysical

The timber damage assessment rate for new clearing in the Green Area increased to $181.54 per hectare. The rate for re-use of existing line increased to $42.18 per hectare. These rates are established by the Timber Management Branch and are directly related to the average rate of timber due for the previous year.

Table C6

EXPLORATION ACTIVITY FOR OIL AND GAS ON PUBLIC FOREST LANDS
1972-80 GEOPHYSICAL APPLICATIONS

Year	Preliminary Plans Approved (Number)	Line Cut (Kilometres)	Existing Lines in Use (Kilometres)
1972-73	273	3 605	3 513
1973-74	401	3 953	4 365
1974-75	205	2 554	2 541
1975-76	325	2 148	3 714
1976-77	387	5 786	5 641
1977-78	639	9 551	9 310
1978-79	743	11 076	10 796
1979-80	676	10 048	9 788

7. Revenue

Timber damage assessments, forest protection levies and Crown dues amounted to approximately $518 219.00

D. FOREST PROTECTION

1. Introduction

The 1979 fire season recorded the greatest number of fires within the last three decades. One thousand fires burned 194 597 hectares. Lightning caused just over half the fires (51.8 percent); however, 95.3 percent of the area loss was attributed to this cause. After a slow spring season, the fire action became hectic in July resulting in direct suppression costs in excess of eight million dollars.

The mountain pine beetle infestation continued unabated. Photography taken during the summer indicated that approximately 2 600 hectares were infested with beetles. Monitoring will be continued with salvage and control operations to be initiated.

2. Fire Causes and Classification

Each fire is classified according to the area it burns. The following five classes are used: A — spot to .10 hectares, B — .10 hectares to 4 hectares, C — 4.1 hectares to 40 hectares, D — 40.1 hectares to 200 hectares, and E — over 200 hectares.

Table D1 shows the number of fires by class and cause and Table D2 shows the distribution per forest.

Table D1
FIRE CLASSIFICATION

Cause	Number by Class					
	A	B	C	D	E	Total
Recreation	212	19	1	0	0	232
Forest Industry	6	4	0	0	0	10
Settlement	11	17	14	1	0	43
Railroad	1	4	0	0	0	5
Lightning	216	221	52	13	16	518
Other Industries	30	20	3	0	0	53
Incendiary	16	26	10	3	2	57
Public Projects	7	7	1	0	1	16
Unclassified	32	16	3	0	0	51
Unknown	9	5	0	1	0	15
TOTALS	540	339	84	18	19	1 000

Table D2
FIRE-CLASS DISTRIBUTION
(For the Calendar Year 1979)

Forest	Class of Fire					Total
	A	B	C	D	E	
Athabasca	40	63	19	5	9	136
Bow/Crow	128	12	0	0	0	140
Edson	43	20	4	0	0	67
Footner Lake	26	61	16	2	2	107
Grande Prairie	27	25	1	1	0	54
Lac La Biche	31	35	17	4	4	91
Peace River	20	12	0	0	0	32
Rocky/Clearwater	125	32	4	0	3	164
Slave Lake	39	33	8	3	0	83
Whitecourt	43	25	7	1	0	76
TOTAL	522	318	76	16	18	950
Metis Colonies	1	1	3	1	1	7
Indian Reserves	7	15	3	0	0	25
Rural Area	10	5	2	1	0	18
GRAND TOTAL	540	339	84	18	19	1 000

Although the official fire season is considered to fall between April and October, minor fires do occur during the winter months. Table D3 shows the monthly distribution of fires by cause.

Table D3
MONTHLY DISTRIBUTION OF FIRES
(For Calendar Year 1979)

Cause	Month											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Recreation	2	0	1	0	39	24	45	20	36	36	23	6
Forest Industry	0	0	0	0	2	1	2	0	1	1	3	0
Settlement	1	0	1	2	17	1	1	2	0	8	10	0
Railroad	0	0	1	1	1	0	0	0	0	2	0	0
Lightning	0	0	0	0	12	185	234	75	12	0	0	0
Other Industries	1	0	3	0	13	8	5	6	5	12	0	0
Incendiary	0	0	2	10	32	4	1	5	1	1	1	0
Public Projects	0	0	1	0	3	3	1	4	3	1	0	0
Unclassified	0	0	3	3	12	10	6	6	6	4	1	0
Unknown	0	0	0	1	5	6	1	0	1	1	0	0
TOTALS	4	0	12	17	136	242	296	118	65	66	38	6

Table D4
FIRE DISCOVERY AGENT

Cause	Discovered By				
	Tower	Public	Forest Officers	Aircraft	Other
Recreation	14	79	44	5	90
Forest Industries	4	3	1	0	2
Settlement	8	26	1	2	6
Railroads	0	3	0	0	2
Lightning	328	33	12	136	9
Other Industries	11	18	8	2	14
Incendiary	13	21	6	11	6
Public Projects	4	3	4	3	2
Unclassified	15	25	1	1	9
Unknown	4	9	0	1	1
TOTALS	401	220	77	161	141

3. Fire Damage

The following tables indicate the volume and value of wood lost to fire as well as the area of forest land burned.

Table D5

FIRE LOSSES BY CAUSE

Cause	VALUE OF DAMAGE (Dollars)		AREA BURNED (Hectares)		
	Productive	Potential	Crown	Private	Total
Recreation	12 134	135	31	0	31
Forest Industries	1 028	—	1	1	2
Settlement	1 480	287	19	311	330
Railroads	108	—	1	1	2
Lightning	25 239 816	3 487	185 448	—	185 448
Other Industries	20 993	—	44	13	57
Incendiary	1 519	62	1 044	132	1 176
Public Projects	2 711 521	—	7 455	2	7 457
Unclassified	9 071	15	43	3	46
Unknown	—	—	2	46	48
TOTALS	27 997 670	3 986	194 088	509	194 597

Table D8
FIVE-YEAR SUMMARY — AIRCRAFT REPORT

All Aircraft	1975		1976		1977		1978		1979	
	No.	Hour	No.	Hour	No.	Hour	No.	Hour	No.	Hour
Helicopters	36	6 394	40	6 103	47	5 687	72	7 787	125	8 237
Fixed Wing	89	4 370	70	2 764	124	3 828	76	3 689	122	4 825
Air Tankers	11	485	11	1 073	10	658	11	1 023	17	1 633
TOTAL	136	11 249	121	9 940	181	10 173	159	12 499	264	14 695
No. of Fires Actioned by Aircraft	230		268		156		283		516	

Table D9
TEN-YEAR SUMMARY OF FIRES

Year	Total Fires	*Non-Forested (Hectares)	Forested (Hectares)	Total Area (Hectares)	Suppression Costs
1970	816	21 550	30 879	52 429	4 535 419
1971	900	46 317	17 673	64 395	5 462 555
1972	737	11 364	37 925	49 290	5 179 163
1973	478	2 073	8 576	10 690	2 377 984
1974	598	2 299	15 689	18 392	5 619 951
1975	693	1 632	4 156	5 789	3 951 032
1976	774	5 313	17 124	22 473	3 681 894
1977	556	6 049	3 981	10 030	1 176 666
1978	653	5 017	2 773	17 790	2 787 901
1979	1 000	509	194 088	194 597	8 679 644

*Non-Forested Hectares refers to non-productive forest land and private land.